Māori Oral Health Across the Lifespan: A Literature Review

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Māori experience inequities in oral health, oral health outcomes, and access to oral health/dental care; however, this has not always been the case. Prior to the arrival of colonisers in the 1800s, Māori traditionally had good oral health due to a healthy diet – e.g., kaimoana (seafood), birds, and crops (Broughton et al., 2021; Schmidt & Moffat, 2011). Māori also chewed on tough foods such as fern roots, which eventually resulted in their teeth being ground to the gum line (Schmidt & Moffat, 2011). Colonisers brought with them Western diets which featured sugar and refined grains that Māori consumed and incorporated into their diets (Broughton et al., 2021). By the mid-nineteenth century, it was observed that Māori had the same levels of toothache and tooth decay as colonising Europeans (Broughton et al., 2021; Schmidt & Moffat, 2011).

Māori experience significant oral health inequities across the lifespan, including higher rates of decayed, missing, or filled teeth (abbreviated as DMFT for permanent dentition or adult teeth, and dmft for deciduous dentition or baby teeth) as well as more frequent periodontal pocketing compared with all non-Māori except Pacific peoples (Broughton, 2010; Broughton et al., 2021; Ministry of Health, 2006). Reasons for this disparity have been cited as these structural barriers:

- Overrepresentation of Māori in the statistics for financial hardship
- Cultural barriers and/or racism experienced by Māori when they visit their oral health providers (Jackson et al., 2025; Koopu & Boyd, 2009)
- Differing cultural understandings of oral health (holistic versus individualistic)
- Underrepresentation of Māori in the nation's oral health workforce.

The high cost of private oral care can make it inaccessible for Māori and can lead to individuals attempting self-extraction. For individuals living rurally, it can be challenging to book, and travel to, an appointment with the public health system (Dental Council, 2021; Lacey et al., 2025). Kaumātua (esteemed Māori elders) may also have previous experiences of oral health care when it was provided with little pain relief, which may have put them off regular oral health visits (Stuart et al., 2011). Individualist models of health are also generally perpetuated in the nation's health systems, which, in turn, fail to cater to holistic Māori understandings of health and well-being, and ignore the important role of whānau in health (Stuart et al., 2011).

KEYWORDS: inequity in oral health; kaumātua; Māori; oral health; Te Tiriti o Waitangi

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THE LITERATURE REVIEW

This literature review will provide a synopsis of literature reporting on the oral health status and oral health service utilisation rates of Māori across the lifespan. It should be noted, however, that as Lacey et al. (2021) explain, there are no clinical surveillance and monitoring mechanisms for the oral health status of Māori adults. To date, there have been three national oral health surveys that reported on oral health status of adults and their patterns of accessing oral health services. These studies included clinical examinations and reported data on clinical findings, such as the number of decayed, missing, or filled teeth (DMFT for permanent dentition or adult teeth, and dmft for deciduous dentition or baby teeth); periodontal pocketing; and the statistics for oral health visits of Māori compared with non-Māori. Nationally, self-reported oral health data is collected from adults through the *New Zealand Health Survey* (Ministry of Health, n.d.).

A significant gap in the literature is the lack of in-depth qualitative and kaupapa Māori studies reporting Māori adults' perspectives on oral health, as well as the barriers to, and enablers for accessing dental/oral health care. Specific studies on kaumātua understandings and experiences of oral health are vital given the ageing population of Aotearoa and the fact that more older people are remaining dentate (meaning they have at least one natural tooth) into the third age. Reports of oral health experiences of kaumātua are also needed as kaumātua play a crucial role in passing on cultural knowledge, which includes traditional oral hygiene and health care practices (Stuart et al., 2011).

This literature review will inform the design of a future research project that will explore kaumātua perspectives on oral health, their experiences of oral health care, and their access to oral health services. It will also explore the barriers to, and enablers for, good oral health and hygiene amongst kaumātua. This future study will partially fill a research gap on kaumātua accounts of oral health care.

LOCATING THE LITERATURE

A narrative literature review was selected for this study and the subsequent study as it draws on the available evidence to formulate a research question, making it appropriate for this purpose (Ahmad, 2025). It was also selected because it enables more flexibility in the literature synthesis and write-up than the rigidity of a systematic literature review or meta-analysis, as well as being particularly suited to a qualitative research approach or, alternatively, narrative research (Ahmad, 2025; Sukhera, 2022).

Locating specific research studies on kaumātua oral health proved to be difficult. Initially, a general internet search was conducted using the search terms 'kaumātua', 'oral health', 'dentistry', and 'dental clinics', which resulted in no studies being identified. Another set of search terms was then selected, including 'Māori', 'older people', 'elderly', 'oral health care access', and 'dental visits', which led to a study on older New Zealander's oral health being located. The study had a specific section on Māori elders (CBG Health Research, 2015). Both sets of search terms were then used to search in Google Scholar and the 'search everything' function on the Whitireia and WelTec library site (which links to all databases that the polytechnic subscribes to). Unfortunately, no further studies were identified.

Given the scarcity of literature, an AI search was undertaken using Microsoft Copilot, which did not result in any published literature being located, however, it did link to websites such as Te Ao Mārama: Aotearoa Māori Dental Association (2022) and the University of Otago, where specific priorities for Māori oral health were reported. On the webpage for Te Ao Mārama, some links to published studies on

Māori oral health were listed, but none of these related to kaumātua. A decision was therefore made to explore the wider literature on the oral health of Māori and clinic access across life stages. The research team were also aware that Emeritus Professor John Broughton (formerly of the University of Otago Faculty of Dentistry), had researched extensively on Māori oral health, so his name was utilised as a search term to locate further literature. Literature was located, albeit mostly relating to the oral health of tamariki Māori.

Research has a limited lifespan so, ideally, the literature included in this review would have been published in the last five years. Due to the lack of research available on Māori adults and kaumātua, however, some dated studies have been included. Only literature that was available in full text, in English, and published in the twenty-first century was reviewed. The next section reports literature according to specific life stages.

TAMARIKI MĀORI

Under the Community Oral Health Service (COHS) scheme, basic oral health care is free (subsidised by the government) until year 8 of schooling (around 12 years of age). Given the COHS collects and publishes data on children's oral health, there is a plethora of information on tamariki oral health. This COHS data set for children aged 5 and children in year 8 is published annually. Data is available on the oral health of some tamariki Māori because it is collected yearly and published as part of the scheme. Unfortunately, the way oral health services are rolled out often means that Māori are less able to access this care than their non-Māori counterparts (Boyd et al., 2022; Tustin et al., 2024). For instance, Māori parents residing in rural locations have reported being less able to access the COHS as they have to take time off work to travel to appointments, while cultural dissonance associated with western models of health embedded in public health services, including the COHS (explained in more depth below) are also likely to be barriers to some Māori parents accessing this scheme (Āti Awa Toa Hauora Māori Partnership Board, 2025).

A somewhat outdated study undertaken in 2009 with 5- to 6-year-old children in Northland found that dental caries (decay) was higher amongst tamariki Māori who attended lower decile schools, while tamariki Māori also had higher rates of tooth loss (due to caries) and untreated tooth surfaces than the Pākehā/other group (Gowda et al., 2009). Later studies have found that, by the age of 5, nearly twice as many tamariki Māori (60%) as non-Māori children (33.3%) had dental caries (Boyd et al., 2022; Tustin et al., 2024). In 2022, at age 5, tamariki Māori had an average of 3.1 dmft compared with 1.4 for 'other' children. In year 8, tamariki Māori had an average of 1.2 DMFT compared with 0.6 of 'other' children (Environment Health Intelligence New Zealand, 2025). Not only is dental caries more pervasive in tamariki Māori, it is also more severe when accounting for economic deprivation, and even occurs in locations with fluoridated water (Boyd et al., 2022; Tustin et al., 2024).

Compared with non-Māori children, tamariki Māori are also more likely to undergo a hospital dental procedure (Tustin et al., 2024). A secondary analysis of hospital data from 2000 to 2020 showed that tamariki Māori aged 5 and in year 8 were both less likely to be seen by the COHS (Cure Kids, 2024). Since 2018, the rate of children accessing hospital dental care has generally decreased, but hospitalisation for dental caries among tamariki Māori (and Pacific children) has been double that of non-Māori.

The Āti Awa Toa Hauora Māori Partnership Board (2025) reported that, in 2021, 80.8% of tamariki Māori aged up to 4 years were enrolled in the COHS, compared with 94% of non-Māori children. They undertook research with whānau groupings and discussed oral health, amongst other topics (please note that the total number of participants is listed as 108, but the number of whānau groupings and people in those groupings is not discussed). Half the whānau groups considered oral health care to be inaccessible in their rural localities, and long wait times

and inhospitable clinic hours were barriers to accessing oral health services. Other barriers included a lack of cultural safety, few Māori dentists and other oral health professionals, and a lack of practitioners who could speak te reo Māori and employ kaupapa Māori and mātauranga Māori approaches.

Some whānau groups also shared their positive experiences with oral health care, especially when it was provided through kura kaupapa and Kōhanga Reo. They recommended that kura kaupapa and Kōhanga Reo connect with oral health professionals to bolster the attendance of tamariki Māori and their whānau. They also recommended that oral health education should be provided to Māori households (as many do not understand the link between oral and general health), oral health subsidies should be provided for low-income households, and "Māori-led oral health initiatives, including mobile dental clinics and culturally safe services" should also be provided (Āti Awa Toa Hauora Māori Partnership Board, 2025, p. 26).

RANGATAHI MĀORI

Under the Adolescent Oral Health scheme (AOH), basic adolescent oral health care is free to young people from year 9 of schooling until their 18th birthday (although many dentists do not participate in this scheme as the remuneration from the government is perceived as relatively low). Research has consistently shown that Māori are less likely to access this free care than their non-Māori counterparts (Broughton et al., 2021; Pledger et al., 2024). Specifically, a study on the oral health of adolescents residing in the Canterbury region showed that rangatahi Māori were 37% less likely to access this care than non-Māori (Lee et al., 2023).

PAKEKE MĀORI

The most recent national study that included a specific section on Māori adults' oral health care was the *New Zealand Oral Health Survey* (Ministry of Health, 2010). This reported inequities in oral health care access by younger adults (25 to 34), Māori, Pacific peoples, and those residing in areas of high socio-economic deprivation. Māori adults (aged 18 to 75 plus) had twice the rate of edentulism and were 1.1 times more likely to have one or more missing teeth than non-Māori. Māori were also more likely to have a non-functioning dentition and fewer 'sound' teeth than non-Māori. As part of the oral health assessment, Māori participants were also found to be 1.5 times more likely to have untreated decay, while the number of untreated teeth with decay was 1.9 times higher. Māori adults had a greater DMFT score than non-Māori and had 1.5 times more periodontal pocketing than non-Māori. They were also found to be 1.3 times more likely to have some periodontal loss of attachment, 1.4 times more likely to have *moderate* periodontal loss of attachment, and 1.9 times more likely to have *severe* periodontal loss of attachment, compared with non-Māori.

There have also been several smaller studies conducted with specific groups of Māori adults (e.g., Broughton & Anderson, 2013; Reid et al., 2020). A study with 41 tāngata whai ora (mental health service consumers) was conducted in Western Tauranga Moana (Bay of Plenty), although only 13 tāngata whai ora participated in both the pre- and post-dental intervention interviews. The participants reported experiencing oral pain, toothache, infection, and halitosis (bad breath), while all had unmet dental needs including failed restorations, gum disease, dental caries, missing teeth, and edentulism without dentures. Their oral health was found to impact on their tinana (body), hinengaro (mind), whānau, and wairua (spirit) (Broughton & Anderson, 2013). Oral health care received as a component of the study had a positive impact on the participants' mental and social well-being, relationships, oral functioning, and self-perception. They also stated that they would take a more proactive approach to maintaining their oral health and hygiene, as well as the oral hygiene of their whānau.

Another study was undertaken on the oral health of 33 Māori participants with diabetes mellitus (aged 29 to 80) who attended a primary care clinic in Northland with high socio-economic deprivation levels, overcrowding,

and a non-fluoridated water supply (Reid et al., 2020). Cost was the greatest barrier to accessing oral health care and determined whether the participants visited their general practitioner (for interim care) and hospitals (for extraction). Bureaucratic errors from ACC, as well as Work and Income refusing to pay for costly restorations, led to tooth extraction for some participants. Some perceived edentulism as inevitable, while others considered edentulism something that could free them from pain and financial burden; however, they failed to account for the cost and discomfort of ill-fitting dentures and the subsequent impact of their dentures on mastication.

Given that diabetes and periodontal disease disproportionately affect Māori, a second kaupapa Māori study was carried out. It focused on the same intersecting health concerns with 26 Ngāti Toa Rangatira adults (Lacey et al., 2025). Two wānanga were conducted with those diagnosed with diabetes and their whānau. The barriers to accessing oral health services reported by the participants included cost, long wait times (even when in pain), and having to take time off work to attend an appointment. The participants said that oral health was seldom discussed with their medical practitioners in appointments, and they wanted more integrated healthcare and knowledge of what dental support was available. They stated that the link between oral health and diabetes needs to be discussed by their health providers in the first instance at the prediabetes stage. They also recommended that information (such as pamphlets) should be centred in te ao Māori. The results highlighted how Māori value oral health as well as access to resources and support services.

KAUMĀTUA MĀORI

It should be noted that all studies reviewed in the above adult Māori section have included kaumātua, but data has not been reported separately (e.g., 18 to 80 years and above). Despite the abundance of studies focusing on the oral health of older New Zealanders (e.g., CBG Health Research, 2015; Smith et al., 2020; Smith & Thomson, 2017; Thomson, 2024), specific information on kaumātua oral health is limited (Stuart et al., 2011). Stuart et al. (2011) maintain that, given that Aotearoa has an ageing population and that there is an increasing number of older people remaining dentate into the third age, more information needs to be collected on kaumātua oral health care, their access to oral health care, and their oral hygiene beliefs and values. This study was written prior to the 2012 *New Zealand Older People's Oral Health Survey* (*OPOHS*), which was the most recent national study on older people's oral health (CBG Health Research, 2015).

As part of the *OPOHS*, 2,218 people aged 65 and over participated in individual interviews, and 1,882 participated in oral examinations. The study also included 226 kaumātua; the results for this group were reported in a separate section. Kaumātua were found to have higher rates of tooth loss and edentulism, but they were also less likely to replace their missing teeth with dentures compared with non-Māori. Dentate kaumātua were less likely to report a fully functioning dentition and were less likely to use a fluoride toothpaste than non-Māori. The kaumātua were less likely to have visited a dental professional in the last 12 months as well as "half as likely to have visited at that time for a check-up; only one-fifth as likely as non-Māori to usually attend for a check-up; and half as likely to visit the same dental professional for dental care and advice" (CBG Health Research, 2015, p. xvii). The kaumātua who did access dental care were less likely to report feeling as though the dental professional had listened attentively to their concerns (CBG Health Research, 2015). The main barrier for kaumātua accessing oral health care was the perceived cost.

Unfortunately, the *OPOHS* also found that older people in general who reside in rest homes, those who need daily living assistance, those aged 85 years and above, and those who are men, experience oral health inequities (CBG Health Research, 2015). Those with dementia had significantly worse oral health, which may be because their carers do not see it as

a priority. Age-related mobility issues, health conditions, and the low remuneration received on the national pension were all cited as barriers to accessing oral health care. One study with older people who resided in their own homes and needed living assistance also cited embarrassment and not wanting to make a fuss as additional barriers to accessing care (Smith et al., 2020). These issues may also be experienced by kaumātua and thus need further exploration.

DISCUSSION

At all life stages, Māori experience inequities in oral health, access to oral health care, and oral health outcomes. This is even the case for tamariki and rangatahi Māori when basic oral health care is free. There is a large body of literature reporting on the oral health of tamariki Māori, but the oral health status and oral health care access of Māori in other life stages is significantly underexplored. For this reason, some of the literature reviewed can be considered dated, and some studies have been discussed consecutively rather than as an overall group. Lacey et al. (2021) explain that there is a pervasive gap in literature reporting on the oral health status of Māori adults and kaumātua. The researchers of this literature review support this assertion.

Utilising evidence from *the New Zealand Oral Health Survey* (Ministry of Health, 2010), Lacey et al. (2021) explore Māori oral health inequities through the lens of Te Tiriti o Waitangi. Under article 1, Kāwanatanga, the Crown must provide equitable health policy and outcomes for Māori. Successive governments have been, and remain, in breach of this responsibility. Lacey et al. (2021) explain that, traditionally, governmental health policy has failed to include any mention of Te Tiriti o Waitangi and/or Māori health. This is seen in the current strategy, *Good Oral Health for All, for Life* (Ministry of Health, 2006), which sets the nation's key strategic direction for oral health without any reference to Te Tiriti o Waitangi. The *Good Oral Health for All, for Life* strategy remains the nation's key oral health strategic document, despite it being 20 years old.

Under article 2, Tino Rangatiratanga, the Crown must provide Māori with opportunities to exercise their control and authority. In oral health, this opportunity can be met by working with Māori health providers to develop kaupapa Māori and mātauranga Māori oral health services (Lacey et al. 2021). To achieve this, the number of Māori oral health professionals must be consistent with the percentage of Māori in the general population and sufficient to meet Māori oral health needs. In 2022, Māori made up 4.1% of the nation's dentists, 10.1% of oral health therapists, and 12.5% of dental therapists, compared with 19.6% of Aotearoa's general population who identified as Māori (StatsNZ, 2024). If the government is to meet its responsibilities under article 2, and help address bias and prejudice in the present system, then boosting the number of Māori oral health professionals and kaupapa Māori oral health services is necessary.

In their research with whānau groupings, Āti Awa Toa Hauora Māori Partnership Board (2025) explained that they had positive experiences when visiting Ora Toa, which is a health service owned and operated by Te Rūnanga o Toa Rangatira Inc. It provides a broad range of health services including oral health, GP access, diabetes clinics, breast screening, injury prevention, and other services based on their 'mauri ora' model and approach. Āti Awa Toa Hauora Māori Partnership Board (2025) call for more accessible, holistic, and Māori-led oral health initiatives if the oral and general health inequities experienced by Māori are to be addressed. They maintain that "investment is also needed in public health messaging and education around prevention, especially about how oral health links to wider Hauora" (Āti Awa Toa Hauora Māori Partnership Board, 2025, p.46). Such suggestions help to ensure tino rangatiratanga is embedded in oral health care services.

Lacey et al. (2021) also maintain that the Crown is breaching Māori rights to Ōritetanga (equity) as per article 3 of Te Tiriti o Waitangi, which is evidenced by Māori inequities in oral health, oral health care access, and outcomes. It is also in breach because it fails to collect regular

data on the oral health status of Māori adults, which could lead to greater insights that could inform policy development aimed at addressing the oral health inequities experienced by Māori.

It is beyond the scope of this literature review to hold the government accountable for its Te Tiriti o Waitangi breaches and address the ongoing impacts of colonisation. It is also beyond the researchers' control and capabilities to implement a nationwide oral health care system where inequities experienced by Māori (as well as Pacific and low-income populations) can be potentially remedied. However, the literature review highlights the pervasive gap in research studies reporting on the oral health of rangatahi Māori, Māori adults, and kaumātua Māori. The future research study, which is informed by this literature review, will explore the oral health of a group of kaumātua from Ngāti Toa Rangatira in the Porirua region, which will partially fill a research gap. It will also document traditional Māori perspectives on oral health, which poses a counterpoint to most oral health studies that report statistical data on rates of edentulism, dmft/DMFT, dental caries, and periodontal disease amongst other oral health conditions.

In many published oral health surveys and research, Māori data is also included in a separate section, which may lead to unfavourable attitudes and comparisons with Pākehā. For instance, higher rates of dental caries or tooth extraction may frame Māori as less interested in maintaining their oral health, which is inaccurate (Āti Awa Toa Hauora Māori Partnership Board, 2025). Questions also remain around data sovereignty when Māori data is collected for national surveys; Māori should have control of the collection, ownership, and application of Māori data for research purposes (Lilley et al., 2024).

The kaupapa Māori research currently being designed by the research team (the authors) will provide greater insight into how kaumātua view oral health, its importance, and the specific cultural and age-related factors that impact on kaumātua oral health care service attendance. Ideally, such detailed data may lead New Zealand dental/oral health professionals to practise in a culturally safe manner, which is mandated by their profession (Dental Council, 2022). Findings may also be used to leverage change and advocate for an oral health system where all its citizens have good oral health across all stages of life.

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TE KAUNIHERA KAUMĀTUA O NGĀTI TOA RANGATIRA meet monthly to discuss matters of importance and any other business that whānau or the community seek to raise. Dr Te Taku Parai chairs the kōmiti and attendance ranges between 40 and 60 people. The kaumātua are looking forward to participating in the oral health project later this year.